

ABSTRACT

[0076] Methods and systems are disclosed for a video system. In a first exemplary embodiment, the video system comprises a video processing circuit that receives a picture and provides video compression by using an optimal macroblock mode of operation, the optimal macroblock mode of operation being identified by processing at least one macroblock of the picture, the processing being performed independent of other macroblocks contained in the picture. Additionally, the video processing circuit comprises a mode selection circuit that identifies the optimal macroblock mode of operation by using a rate-distortion model. The rate-distortion model incorporates an overall macroblock mode distortion D that is defined as the sum of D^{AC} a distortion due to AC coefficients, and D^{DC} a distortion due to DC coefficients.